

### ABSTRACT

A gravity dependent pedicle screw tap hole guide comprises a guide shaft maintainable parallel to a drill bit during the drilling of a pedicle screw tap hole; a level indicator associated with a reference direction and responsive to gravity to provide feedback regarding an angular difference between an acting direction of gravity and the reference direction; and a mounting attaching the indicator to the shaft and establishing a positional relationship between the reference direction and the longitudinal axis. Using the guide involves angulating the shaft about its distal end adjacent the base of the superior articular process and the base and middle of the transverse process until the guide indicates that the angular orientation of the longitudinal axis matches the previously determined pedicle axis orientation with respect to the acting direction of gravity, and then drilling the tap hole along a trajectory established by the longitudinal axis of the shaft.